208252

P-1428

ORGANIC
PEROXIDE
PRODUCERS
SAFETY
DIVISION

RSPA-02-14126-1

October 29, 2002

02 DEC 19 PM 1:13

Associate Administrator for Hazardous Materials Safety (DHM-1)
Research and Special Programs Administration
Department of Transportation
Washington, D.C. 20590-0001

Re: Petition for rulemaking; alternative method for sizing of relief devices for bulk packaging used to transport organic peroxides

Dear Sir:

This petition for rulemaking is filed by the Organic Peroxide Producers Safety Division (OPPSD) of the Society of the Plastics Industry, Inc. (SPI), pursuant to the provisions of 49 CFR 106.31.

Petitioner. "OPPSD", The Society of the Plastics Industry, Inc., 1801 K Street N.W., Suite 600 K, Washington DC 20006; contact: Mr. Lynne Harris, telephone: (202) 974-5217.

Proposed action and purpose. The note to § 173.225(e)(3)(vi) of the Hazardous Materials Regulations ("HMR", 49 CFR Parts 171-180) references an example of a method that may be used to determine the size of emergency relief devices on portable tanks used for the transport of Division 5.2 materials (organic peroxides). Pursuant to the provisions of § 173.225(e)(5)(ii), the same procedures are applicable to the sizing of relief devices on intermediate bulk containers (IBCs) used for the transport of such materials. The method for sizing referred to in this note is that found in Appendix 5 to the United Nations (UN) Manual of Test and Criteria (the Test Manual) as incorporated by reference in § 171.7 of the HMR. This petition proposes to amend this note to refer to an equally acceptable example of a relief device sizing method - that being the method developed by the OPPSD and published in [American Institute of Chemical Engineers Process Safety Progress Journal, June 2002 issue (Vol. 21, No. 2)]. The purpose of the proposed action is to ensure that the alternative method developed and employed by the United States organic peroxide industry and its customers is given equal recognition to that in Appendix 5 of the UN Test Manual.

Text of proposed amendment. The following amendment to the HMR is proposed:

1) In § 173.225, revise the "Note to Paragraph (e)(3)(vi)" to read:

"Note to Paragraph (e)(3)(vi): Examples of methods to determine the size of emergency-relief devices is given in Appendix 5 of the UN Manual of Tests and Criteria, and in [American Institute of Chemical Engineers Process Safety Progress Journal, June 2002 issue (Vol. 21, No. 2)] incorporated by reference, see § 171.7 of this subchapter."

1801 K Street, NW, Suite 600K
Washington, DC 20006-1301
tel 202.974.5200 • fax 202.296.7005
www.socplas.org

2) As a consequence of the foregoing, the Table of material incorporated by reference in § 171.7(a)(3) would be amended by adding "[The Society of the Plastics Industry, Inc., Organic Peroxide Producers Safety Division, 1801 K Street N. W. Suite 600 K, Washington D.C. 20006-1301 - EXAMPLE OF A TEST METHOD FOR VENT SIZING: OPPSD/SPI METHODOLOGY] in the column headed "Source and name of material", and "Note to 173.225(e)(3)(vi)" under the column headed "49 CFR reference".

Interest of petitioner. OPPSD promotes the science, safety and handling of organic peroxides. Toward this goal, the division directs its efforts to:

- Discussion toward resolution of problems confronting the organic peroxide industry and its members.

- Establishment of better communications in the area of safety practices among firms concerned with manufacturing, shipping, handling and storage of organic peroxides.

- Identification of the hazards of organic peroxides and determination of appropriate test methods for accurately measuring these hazards; establishment of recommended safe practices for organic peroxides.

- Promotion of research, development and standardization and publication of reliable data through information bulletins.

The OPPSD represents the following companies:

- Akzo-Nobel Chemicals Incorporated

- Degussa Catalysts & Initiators
(Aztec Peroxides, LLC)

- ATOFINA Chemicals, Inc.

- Crompton Corporation

- GEO Specialty Chemicals

- Lyondell Chemical Company

- PPG Industries, Inc.

- Sunoco Chemicals, Inc.

- Norac, Inc.

Of significant technical interest to the members of OPPSD is the manner in which relief devices used on portable tanks and IBCs may be sized, as evidenced by the fact that OPPSD has devoted over [4+] years of effort to develop a suitable method for this purpose. Accordingly, the members of the OPPSD are directly affected by the relief device sizing requirements in the HMR, and for reasons offered in this petition have an interest in the action proposed herein.

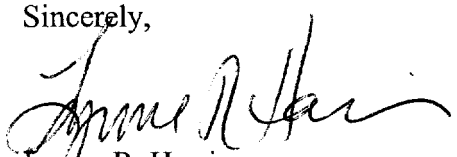
Arguments in support of the requested action. The petitioner believes that the current provisions of the HMR in relation to the sizing of relief devices for use on portable tanks and IBCs transporting organic peroxides should be amended to clarify that the method for sizing relief devices developed by the OPPSD is viewed both as an acceptable method for this purpose, and as a fully acceptable alternative to the method in Appendix 5 to the UN Manual of Tests and Criteria, as currently referenced in the note to § 173.225(e)(3)(vi) of the HMR.

An alternative methodology to that of United Nations, Appendix 5, Sample Method, has been developed by the OPPSD for achieving an assurance for the safe emergency venting of organic peroxides in an approved container. The methodology is applicable for designing a new container for existing or new organic peroxide. Bench scale testing is employed with a 10-liter vessel to determine the maximum pressure pulse (spike) generated during a thermal decomposition/over pressurization vs. the ultimate, structural strength of the container measured and/or calculated. The methodology has been tested full scale with a United Nations 6(c) fuel fire. The methodology, as developed, reflects advances in technology while "harmonizing" to a maximum extent with the United Nations, Appendix 5, Sample Method (Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria, Appendix 5, Example of a Test Method for Vent Sizing).

In summary, for the foregoing reasons the petitioner requests that the HMR be amended to refer to the OPPSD method for sizing relief devices on portable tanks and IBCs used for the transport of organic peroxides as a further example of an acceptable method for this purpose. OPPSD believes that this action will ensure that the OPPSD method for sizing relief devices is clearly recognized to be an acceptable equivalent to the currently referenced method, and to accord to the method developed and implemented by the relevant United States industry the recognition that it warrants.

Please do not hesitate to contact me if you have questions concerning this matter or if you require additional information.

Sincerely,



Lynne R. Harris
Executive Director
Organic Peroxide Producers Safety Division

cc: E. Mazzullo, DOT
C. Ke, DOT
R. Tarr, DOT